

Goal: Understand what is meant by **a fair share** and how to calculate it.

1. The context of Fair Division

2. The definition of **a fair share**:

3. A starter example

What is being divided: 6 muffins

2 apple-walnut (A)

2 blueberry (B)

2 cheese & jalepeno (C)

Cost: the package of 6 cost \$12**Parties (or who is doing the splitting):** Xavier (X), Yuri (Y), and Zariah (Z)**Preferences:** X likes all the flavors equally.

Y is allergic to all nuts so he can't eat the apple ones.

Z likes A twice as much as B or C

(a) **Ignoring all preferences** and just using the cost of the package, what is the value of a muffin?(b) **In a dollar amount**, what would be **the value of** a fair share in this case?(c) Fill out the table below indicating for each party (X,Y, or Z), the dollar amount **they** would assign to each muffin. The total value should always sum to \$12. (!!)

party	A	A	B	B	C	C	total for package
X							
Y							
Z							

4. **YOU** pick a division of the 6 muffins into **three fair shares** according to **Xavier's values**.5. What is the value of each share according to **Yuri's values**?6. What is the value of each share according to **Zariah's values**?